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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,052

09/10/2008

Horst Groeninger

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9559

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7590

08/31/2009

DICKE, BILLIG & CZAJA

FIFTH STREET TOWERS

100 SOUTH FIFTH STREET, SUITE 2250

MINNEAPOLIS, MN 55402

EXAMINER

PATEL, PARESH H

ART UNIT

PAPER NUMBER

2829

MAIL DATE

DELIVERY MODE

08/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,052	GROENINGER, HORST	
	Examiner	Art Unit	
	Paresh Patel	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-37 is/are allowed.
- 6) ☒ Claim(s) 38 and 48 is/are rejected.
- 7) ☒ Claim(s) 39-47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/16/2006, 06/05/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 48 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim limitation "means for providing external through-contact elements ... which make an electrical connection between ... printed circuit board and ... the semiconductor device" uses the phrase "means for" or "step for", but it is modified by some structure, material, or acts recited in the claim. It is unclear whether the recited structure, material, or acts are sufficient for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph, because external through-contact elements as recited in the claim fails to link the claimed limitation to the claimed function. If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to amend the claim so that the phrase "means for" or "step for" is clearly not modified by sufficient structure, material, or acts for performing the claimed function. If applicant does not wish to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to amend the claim so that it will clearly not be a means (or step) plus function limitation (e.g., deleting the phrase "means for" or "step for").

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With respect the limitation “means for stamping,” where the phrase “stamping” is not clear because specification does not have support. In the disclosure, a stamp 11 bearing a wiring 16 and part 14 is used for pressing, however stamping is not defined.

3. In order to expedite the process of the prosecution, with respect to claim 48, the Examiner assumes: 1) “means for stamping” **as** means for pressing; and 2) “means for providing external through-contact elements which are arranged outside of the locating seat and which make an electrical connection between contact pads on the test printed circuit board and contact pads on the back of the semiconductor device” **as** means for making an electrical connection between contact pads on the test printed circuit board and contact pads on the back of the semiconductor device.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 38 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Malladi et al. (US 5701085) and Patel et al. (6034426).

Regarding claims 38 and 48, Malladi et al. (hereafter Malladi) in fig. 3, as shown below, discloses a test apparatus for testing a semiconductor device, where the test apparatus comprising:

a test socket **[22]** mounted on a test printed circuit board **[32]**, where the test socket has a locating seat **[portion of 22 for 90]** for locating the top of the semiconductor device, and where the region of the locating seat contains internal through-contact elements **[electrical path of 22 below the element 90]** through the test socket to the test printed circuit board in order to make an electrical connection between the contact pads of the top of the semiconductor device and the contact pads of the test printed circuit board; a stamp (means for stamping of claim 48) **[see “clamps” for element 108]**; and where the test socket (means for providing external through-contact elements which are arranged outside of the locating seat and which make an electrical connection between contact pads on the test printed circuit board and contact pads on the back of the semiconductor device of claim 48) has external through-contact elements **[electrical path between wire bonding pads and 32]** which are arranged outside **[see the fig. 3]** of the locating seat and which make an electrical connection between contact pads on the test printed circuit board and contact pads on the back of the semiconductor device.

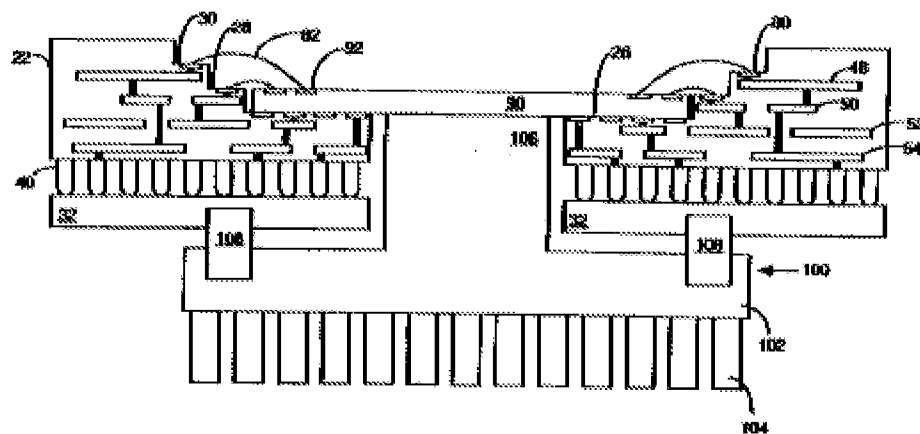


Figure 3

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Apparatus of Malladi is capable making electrical contact between the semiconductor device having contact pads on its top and contact pads on its back, as intended by limitation of the claim, because test socket 22 has pads for electrical connection to said semiconductor device. Patel et al. discloses semiconductor device with pads on top and bottom, see BGA device with integrated circuit.

Allowable Subject Matter

6. Claims 25-37 are allowed.

The following is an examiner's statement of reasons for allowance: No prior art has been found that meets the limitations of claims 25-36 calling for a test apparatus for testing a semiconductor device having contact pads on its top and contact pads on its back, where the test apparatus comprising the test socket has external through-contact elements which are arranged outside of the locating seat and which make an electrical connection between contact pads on the test printed circuit board and contact pads on the back of the semiconductor device to be tested when the stamp is pressed on, as further defined at claim 25.

The following is an examiner's statement of reasons for allowance: No prior art has been found that meets the limitations of claim 37 calling for a method for testing a semiconductor device having contact pads on its top and its back, the method comprising: pressing the stamp with the wiring part and the holding part onto the back of the semiconductor device to make contact with the contact pads, provided for a test, on

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the top and the back of the semiconductor device using the through-contact elements of the test apparatus to make electrical connections to the test printed circuit board.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Claim 39-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found that meets the limitations of claims 39-41 calling for a test apparatus, comprising when the stamp is pressed on, the contact pads of the back of the semiconductor device are electrically connected to contact pads on the test printed circuit board via through-contact elements of a holding part and via rewiring lines of a wiring part, and also via the external through-contact elements in the test socket, as further defined at claim 39.

The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found that meets the limitations of claims 42-47 calling for a test apparatus, comprising the through-contact elements having through-contact pins that have spring-guided test tips that project from a top and a bottom, opposite the top, of the respective device component of the test apparatus, as further defined at claim 42.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 571-272-1968. The examiner can normally be reached on 8:00 to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paresh Patel/
Primary Examiner, Art Unit 2829

August 27, 2009